

3rd District Police Station

Silver Spring, MD

Design Team:

Dewberry

-Architecture

-Civil Engineering

-Structural Engineering

-Security

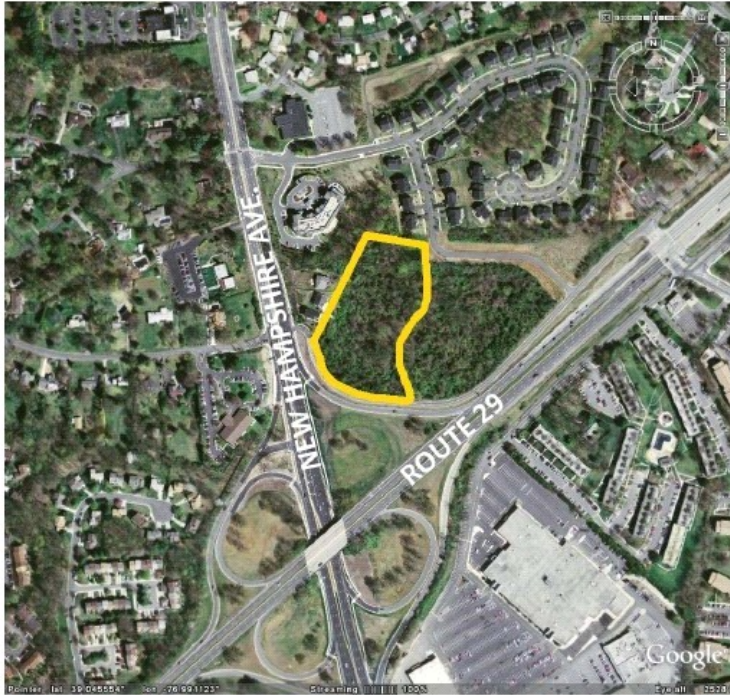
-Traffic Studies

Mendoza, Ribas, Farinas Associates

- Mechanical Electrical Plumbing Fire Protection

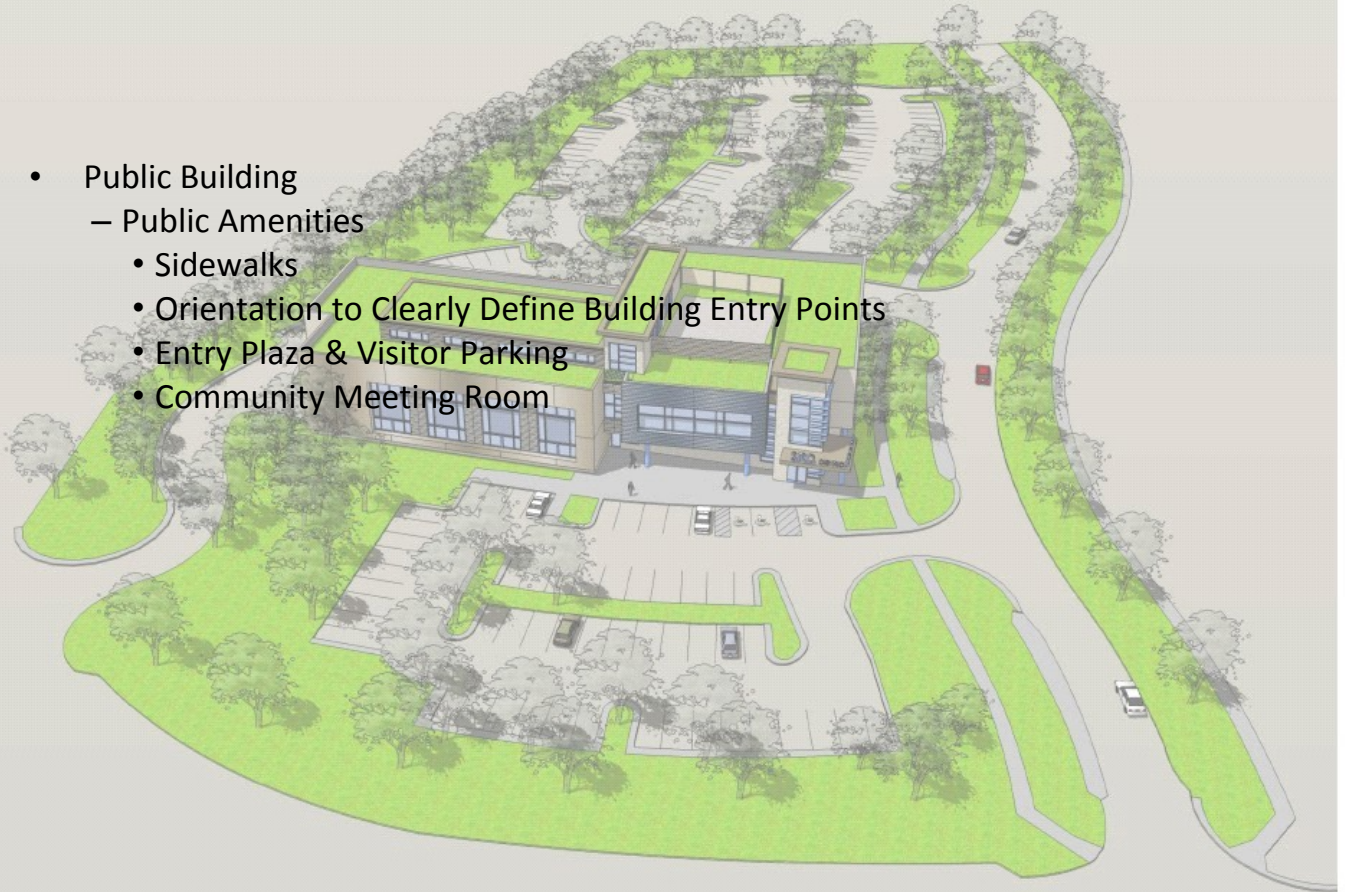
Project History

- County Owned Land 12.8 Acres
- Prepared Planning Study
 - Developed Concept Plan
 - 4 Acres for Police Station
 - Remainder for Public Roadways & Other Uses



- Site Area – 4.19 Acres
- Building Area – 31,679 SF
- Parking – 198 Spaces
 - 57 Public
 - 141 Secure

- Public Building
 - Public Amenities
 - Sidewalks
 - Orientation to Clearly Define Building Entry Points
 - Entry Plaza & Visitor Parking
 - Community Meeting Room



- Public Building
 - Environmental Strategies – LEED Silver
 - Pervious Paving (Light Colored)
 - Landscaping Heavy
 - Screened Parking Areas
 - Protecting Watershed & Conserving Water
 - Energy Efficiency – Green Roof
 - Indoor Air Quality
 - Maximize Daylighting & Views Out



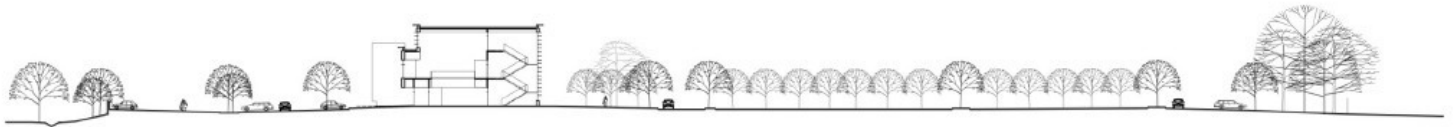
- Public Building
 - Security Measures
 - Perimeter Security Fences & Gates
 - Building Security
 - Secure Parking





- Organizational Concept Public vs. Secure
 - Visitor Entrance & Parking
 - Secure Police Entrances (3)
 - Buffer Zones to Adjacent Properties
- Landscaping / Sound Walls
 - Pervious Concrete Paving with High Reflectance
- Reduce Storm water Runoff
- Reduce Heat Island Effect
- Green Roof
- Lighting Designed for 0 Pollution to Adjacent Housing

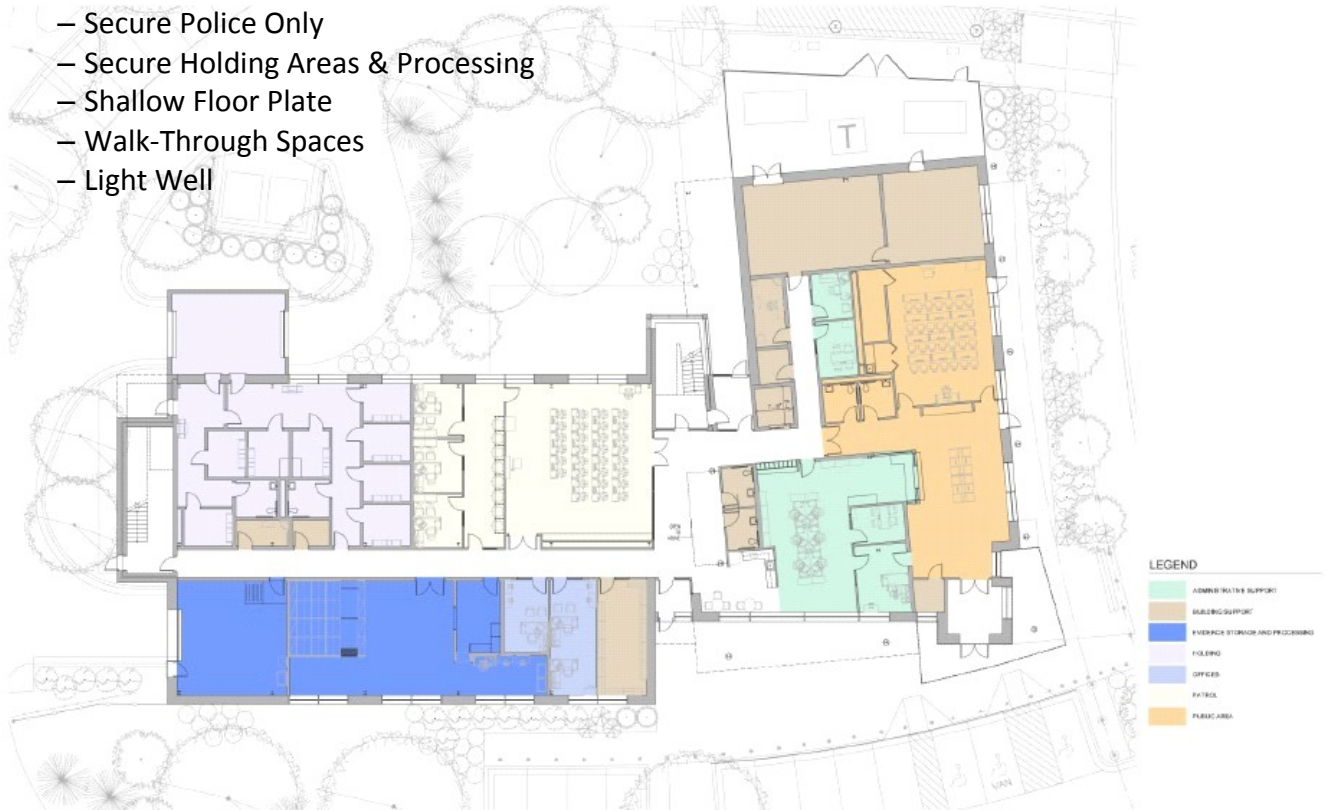
- Elevation Above Milestone Drive
- Screening for Public Parking
- Distances to Adjacent Properties

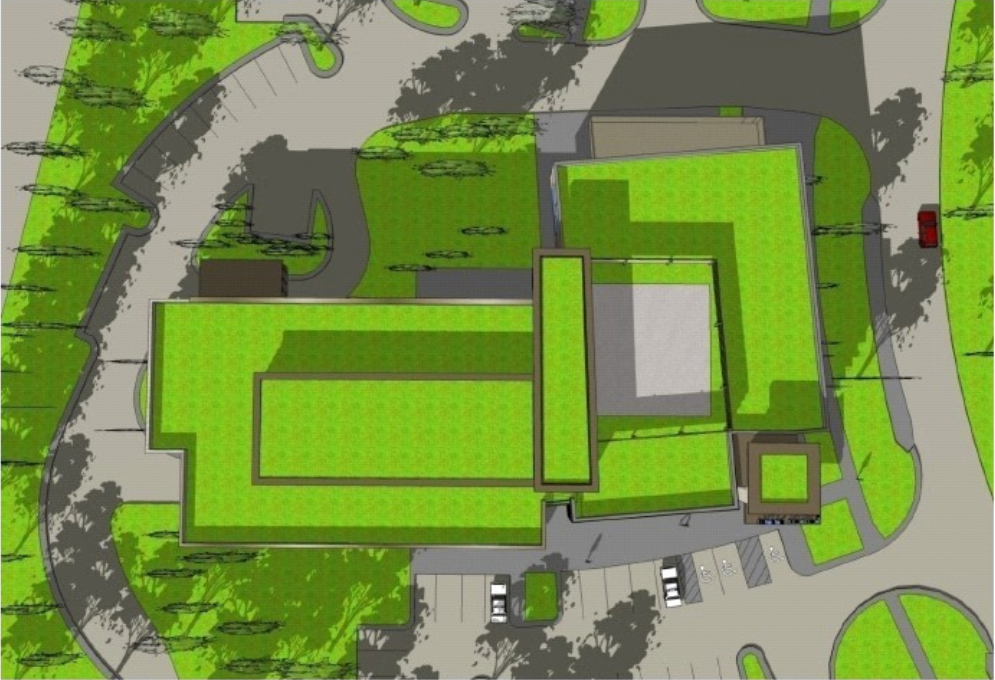


- Retaining Walls
- Sound Walls
- Security Walls
- Design Intent is to Reflect the Residential Nature of Surrounding Community Stone & Wrought Iron



- Organizational Principles
 - Public
 - Secure Police Only
 - Secure Holding Areas & Processing
 - Shallow Floor Plate
 - Walk-Through Spaces
 - Light Well







- South & East
 - South View from Milestone Drive
 - East View from Sherbrooke Woods Lane
- Building Materials
 - Masonry Base
 - Metal Panels – Color Texture Variations
 - Low E High Efficiency Glazing
 - Green Roof



2

EAST ELEVATION - SHERBROOK WOODS LANE VIEW



3 NORTH ELEVATION - PRIVATE COURTYARD VIEW
Scale 1/8" = 1'-0"



4

WEST ELEVATION - REAR YARD VIEW

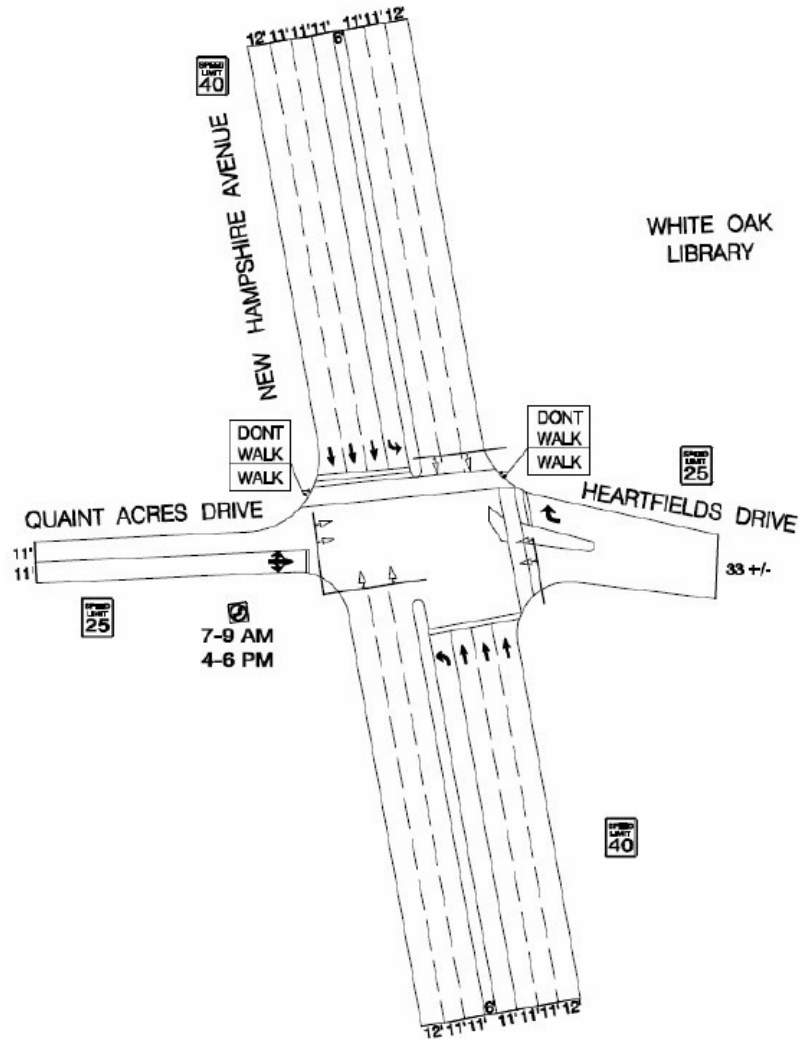
Overall: 147'-11"



Project Schedule

- Conceptual Planning Phase: Completed March 2009
- Schematic Design Phase: Completed Spring 2009
- Design Development Phase: to be Completed Fall 2009
- Construction Document Phase (BID Package): to Be Finished Spring 2010
- Permits to be obtained: Summer 2010
- Project to be bid: Fall 2010
- Construction to Start: Winter 2010
- Substantial Completion of Construction Fall 2012

Existing intersection New
Hampshire Ave (MD 650) and
Heartfields Drive / Quaint Acres
Drive



Potential Changes

Adding police station

- Police traffic would generally use Milestone Drive to enter and exit the facility
- Adds 18 vehicles to New Hampshire Ave during AM peak hour and 23 vehicles during PM peak (3-4 extra cars per lane per hour)
- Will have no significant traffic operational impact at Heartfields Drive intersection

Adding full traffic signal

- Most library traffic will use Heartfields Drive exit instead of Tracy Drive exit
- Left turns would be permitted to MD 650 from both side roads
- Traffic signal would have 150 second cycle length

8-Hour Warrant Analysis

Time (without library traffic)	Hourly Volume from side roads	Meet Warrant? (75 min)	Time (with library traffic)	Hourly Volume from side roads	Meet Warrant? (one lane - 75 min)	Meet Warrant? (two lanes - 100 min)
7:15-8:15	34	NO	10:15-11:15	54	NO	NO
8:15-9:15	51	NO	11:15-12:15	64	NO	NO
9:30-10:30	34	NO	12:15-1:15	70	ALMOST	NO
10:30-11:30	38	NO	1:15-2:15	74	ALMOST	NO
1:30-2:30	41	NO	2:15-3:15	96	YES	ALMOST
2:30-3:30	32	NO	3:15-4:15	88	YES	NO
3:30-4:30	44	NO	4:15-5:15	102	YES	YES
4:30-5:30	42	NO	5:15-6:15	71	ALMOST	NO

4-Hour Warrant Analysis

Time (without library traffic)	Hourly Volume from side roads	Meet Warrant? (80 min)	Time (with library traffic)	Hourly Volume from side roads	Meet Warrant? (one lane - 80 min)	Meet Warrant? (two lanes - 115 min)
8:00-9:00	51	NO	2:00-3:00	93	YES	NO
1:30-2:30	41	NO	3:00-4:00	95	YES	NO
3:30-4:30	44	NO	4:00-5:00	95	YES	NO
4:30-5:30	42	NO	5:00-6:00	83	YES	NO

Peak Hour Warrant Analysis

Time (without library traffic)	Hourly Volume from side roads	Meet Warrant? (100 min)	Time (with library traffic)	Hourly Volume from side roads	Meet Warrant? (one lane - 100 min)	Meet Warrant? (two lanes - 150 min)
8:00-9:00	51	NO	4:30-5:30	103	YES	NO

		NB MD 650		SB MD 650		EB Quaint Acres Dr		WB Heartfields Dr		Overall Intersection	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Existing Condition	AM	0.5	A	0.1	A	Err*	F	Err*	F	Err*	F
	PM	0.2	A	2.5	A	326.5	F	24.9	C	2.8	A
Existing with Library Counts and Signal	AM	2.3	A	4.3	A	73.1	E	68.2	E	4.8	A
	PM	5.5	A	7.0	A	65.8	E	73.5	E	7.6	A

Overall Intersection			
Volume / Capacity			LOS
Existing Condition	AM	0.69	B
	PM	0.73	C
Existing with Library Counts and Signal	AM	0.70	B
	PM	0.76	C

* Simulation could not compute

Benefits / Pitfalls of signal

Benefits

- Make left turns easier
- Will reduce overall delays from side roads
- Will eliminate illegal movements
- Would allow some traffic movements during pedestrian crossing phase

Pitfalls

- Average delay would be approx. 70 seconds from side roads with signal
- Current maneuvers for left turns takes approximately 50 seconds after initial right turn
- Current conditions may be safer than adding a signal

Questions & Answers